

CLAIMS

1. A foldable spa cover and lift unit for installation on a spa having a housing structure with an outside surface an inside surface, sides and a top, the lift unit comprising:

spa cover having first and second half-cover segments interconnected by a center fold; each half-cover segment having a top and sides;

a spa cover lifting device having side arms with a lower portion pivotally connectable to opposite sides of the spa, the arms each having a distal end;

an interconnection mechanism for pivotally connecting the side arms of the lifting device to the first half-cover segment of the spa cover adjacent to the center fold, wherein the interconnection mechanism includes a shaft assembly at the distal ends of the side arms and the first half-cover segment includes a socket assembly on opposite sides of the first half-cover segment, wherein the shaft assembly and socket assembly have releasable engagement means for realeaseably connecting the shaft assembly to the socket assembly for pivot of the spa cover to a storage position when the spa cover and lift unit is installed on a spa structure and the arms of the lift device are pivoted to the side of the spa structure; and

a pair of journal bearing brackets mountable to the inside surface of the housing structure at opposite sides of the spa, wherein the journal brackets each have a bearing and the side arms each have a bend with an end segment with a pivot shaft engageable with the bearing of the journal brackets.

2. The foldable spa cover and lift unit of claim 1, wherein one of the shaft assembly and the socket assembly have a keyway and the other of the shaft assembly and the socket assembly is keyed to the keyway.

3. The foldable spa cover and lift unit of claim 2, wherein the socket assembly has a tube segment with a flat portion and the shaft assembly has a pin insertable into the tube segment, the pin having a flat portion complimentary to the flat portion of the tube segment wherein the pin of the shaft assembly is keyed to the tube segment of the socket assembly by alignment of the flat portion of the pin with the flat portion of the tube segment

4. The foldable spa cover and lift unit of claim 3, wherein the socket assembly on each side of the first half-cover segment has a mounting structure in the first half-cover segment and the two cover segments are hingedly connected to the mounting structure.

5. The foldable spa cover and lift unit of claim 4, wherein the tube segments each have a hinge structure and the first half-cover segment has a rigid cross-member from one side of the first half-cover segment to the opposite side with the hinge structures of the tube segments mounted to the rigid cross-member.

6. The foldable spa cover and lift unit of claim 5, wherein the rigid cross-member comprises a U-channel embedded in the first half-cover segment

adjacent the center fold.

7. The foldable spa cover and lift unit of claim 3, wherein the flat portion of each pin of the shaft assembly has a spring loaded button and the flat portion of each tube segment has a recess complementary to the spring loaded button wherein the spring loaded buttons of the pins seat in the recesses of the tube segment when the pins are inserted into the tube segments.

8. The foldable spa cover and lift unit of claim 7, wherein each pin has a plurality of spring loaded buttons and each tube segment has a plurality of complementary recesses.

9. The foldable spa cover and lift unit of claim 7, wherein the recesses comprise holes.

10. The foldable spa cover and lift unit of claim 6, wherein the first and second half-cover segments have a core of thick insulating material and the U-channel is embedded in the core, the core having a cavity for displacement of the hinged tube segments of the socket assembly.

11. The foldable spa cover and lift unit of claim 2, wherein the socket assembly has a tube segment and the shaft assembly has a pin insertable in the tube segment, wherein one of the tube segment and pin has a projecting key and the other of the tube segment and pin has a complementary groove, wherein the pin is insertable into the tube segment when the key and groove are aligned.

12. The foldable spa cover and lift unit of claim 1, wherein the pin and tube segment have cooperating means for pivot of the pin relative to the tube segment when the pin is inserted into the tube segment.

13. The foldable spa cover and lift unit of claim 11, wherein the releasable engagement means comprises an O-ring in the tube segment engageable in a groove around the pin.

14. The foldable spa cover and lift unit of claim 13, wherein the pin includes a constricted portion in which the key is positioned when the pin is inserted into the tube segment.

15. The foldable spa cover and lift unit of claim 1, wherein the journal brackets each include a coil spring that engages the pivot shaft of the side arm and torsionally facilitates lifting and lowering of the spa cover.

16. The foldable spa cover of claim 14, wherein the pivot shaft has an end flat and the journal bracket has a keyway plate connected to the coil spring with a hole having a matching flat in the plate, wherein the pivot shaft engages the plate through the hole with the end flat and plate flat causing rotation of the keyway plate and coil spring on pivot of the side arms.

17. The foldable spa cover of claim 15, wherein the journal brackets include oppositely facing eyeball flanges wherein one flange is connected to the

inside surface of the spa housing structure and the other flange is connected to the keyway plate.

18. The foldable spa cover of claim 16, wherein the eyeball flanges include nylon bearings.